

REMARKS

This application was originally filed with Claims 1-34. Claims 35-43 were added by Preliminary Amendment. Claims 1-8 and 13-34 were previously withdrawn. Claims 9-12 and 35-41 have been rejected. Claims 9 and 35 have been amended. Therefore, Claims 9-12 and 35-43 are pending in the Application. Reconsideration of the application based on the remaining claims as amended and the arguments submitted below is respectfully requested.

Objections

The Examiner has objected to Claim 9 because Applicant omitted the word sensor after “the second shock” in line 5. In response, Applicant has made the required amendment to the claim to correct this typographical error.

Claim Rejections - 35 U.S.C. § 102(b)

Claims 9-12, 35, and 36 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Wacker (6,204,758).

The rejection of Claims 9-12, 35 and 36 under 35 U.S.C. § 102(b) should be withdrawn. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP §2131 citing Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” Id citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Also, “the elements must be arranged as required by the claim...” Id

citing In re Bond, 910 F.2d 831 (Fed. Cir. 1990). The claim rejections are therefore in error because Wacker does not reveal several claim elements.

Claim 9 and 35

Independent Claim 9 and independent Claim 35 (as amended) are not anticipated by Wacker. First, Claim 9 and Claim 35 require the use of shock sensors. As is commonly understood in the art, a shock sensor is a device which measures a change in force (or change in acceleration) as opposed to the force itself (or the acceleration itself). (See paragraph 0049 of Applicant's Specification). Claim 35 specifically requires that the first and second sensor signals produce signals proportional to the *change* in force applied to the sensors. Shock sensors provide a significant advantage over accelerometers because shock sensors are not affected by the centrifugal force created by the increasing speed of a rotating tire. Consequently, as described in the Specification, shock sensors have the ability to output the varying force of gravity on each shock sensor without being affected by the centrifugal force created by an accelerating vehicle. This permits the system to operate at much higher speeds. Second, Claim 9 and Claim 35 (as amended) require that the right side - left side position of the tire be based on two separate signals produced by the two separate shock sensors.

In contrast, Wacker discloses that the right side - left side position information is extracted by the sign (positive or negative) detected from the tangential accelerometer. Wacker, column 4, ll. 32. A receiver learns the sign of acceleration (positive or negative) associated with the left side and the right side.

Wacker, column 4, ll. 36-41. If the accelerometer reads a positive acceleration, the receiver determines that the tire is on a particular side. Id. If the accelerometer reads a negative acceleration, then the receiver determines that the tire is on the opposite side. Id.

As a result, Wacker does not reveal the structure required by Claim 9. First, Wacker does not reveal the use of shock sensors. Wacker utilizes a tangential accelerometer to determine the direction of rotation of the tire. Thus, Wacker does not teach the use of a device that measures the change in force (or change in acceleration) of the tire. Furthermore, the Wacker device utilizes one signal (the direction of tangential acceleration) to determine the right side - left side position information rather than two signal as required by Claim 9 and Claim 35. In fact, the Office Action citation to Wacker (column 3, ll. 3-9) reveals only that the device utilizes a tangential acceleration signal. (Stating, “The *polarity of the acceleration* varies in accordance with the location of the tire monitor on the right or left side of the vehicle. The acceleration information can be used to determine the position of the tire monitor and its associated wheel on the vehicle.” [Emphasis Added]) Consequently, Claim 9 and Claim 35 are not anticipated by Wacker.

Claim 10 and 11

As was elucidated in the argument for Claim 9, Wacker utilizes one signal (the polarity of tangential acceleration) to determine the direction of the tire. As for Claim 10, the Office Action argues that Wacker at column 4, ll. 32-34 reveals utilizing the lag-lead relationship of two signals to determine right side - left side

information for the tire. Applicant respectfully submits that this is incorrect. As shown by Figure 7, Figure 8 and paragraph [0069] of Applicant's Specification, the lag-lead relationship is the phase difference between the two motion signals, normally expressed in degrees. The Office Action quotes language in Wacker that discloses utilizing the polarity of a single signal to determine the direction of rotation of the tire. A single signal cannot have a phase difference with itself. Finally, because Wacker only utilizes a single signal, the disclosure does not reveal alternately sampling the first motion signal and the second motion signal, as required by claim 11. Consequently, Claim 10 and 11 cannot be anticipated by Wacker.

Claim 12

Claim 12 depends on allowable subject matter and should therefore for at least this reason be allowed.

Claim 36

As previously discussed, shock sensors measure the change in force (or change in acceleration). Claim 36 requires that piezoelectric shock sensors produce sensor signals in response to the change in force. The Office Action points to sensors 902 and 904 of Wacker as meeting this required claim limitation. Applicant respectfully submits that this is incorrect. As stated in Wacker, sensor 902 measures *acceleration* in the radial direction, Column 6, ll. 20-21, while sensor 904 measures *acceleration* in the tangential direction, Column 6, ll. 33-37. As a result, Wacker does not teach the use of shock sensors which measure the change in force.

Furthermore, Wacker does not reveal that sensors, 902 and 904, are piezoelectric. As a result, Wacker cannot anticipate claim 36.

Claim Rejections - 35 U.S.C. § 103

Claims 37-41 have been rejected under 35 U.S.C. § 103 based on Wacker (6,204,758) in view of King (6,788,193). Applicant respectfully requests withdrawal of the rejections.

Claims 37 through 41 each ultimately depend from independent Claim 36. Thereby, each of Claims 37 through 41 inherits all elements of Claim 36. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of Claim 36, each of Claims 37 through 41 set forth features and elements not taught or suggested by Wacker, and King is not relied upon as teaching the elements discussed above as missing from Wacker. Hence, Applicant respectfully asserts that for this reason alone Claims 37 through 41 are patentable over the 35 U.S.C. § 103 rejections of record.

Claim 37

Furthermore, Claim 37 requires that the piezoelectric sensors be piezoceramic sensors. According to the Office Action, the motivation for specifically choosing piezoceramic sensors is that the shock sensors are accelerometers and just as are piezoelectric sensors common accelerometers so are piezoceramic sensors. As previously explained however, shock sensors measure the change in force (or change in acceleration) not acceleration itself. Consequently, the Office Action has not

identified an appropriate motivation to combine because shock sensors are not accelerometers. Applicant respectfully requests a withdrawal of the rejection.

Claim 38-40

Claims 38-40 depend on allowable subject matter and should therefore be allowed.

Claim 41

As to Claim 41, neither Wacker nor King teaches extracting the right side - left side information based on first and second signals from a shock sensor. Neither device utilizes shock sensors. Furthermore, neither device obtains the right side-left side information based on two signals measuring the change in force (or change in acceleration). As a result, Wacker in view of King does not teach the required claim limitations of Claim 41.

Allowable Subject Matter

The Office Action notes that Claims 42 and 43 are objected to as being dependent on a rejected base claim but would be allowable if rewritten in independent form. For the reasons stated above, Claims 35/38 (from which Claim 42 depends) and Claims 9/12 (from which Claim 43 depends) are patentable over the prior art. Therefore, Claims 42 and 43 should be allowable as written in dependent form.

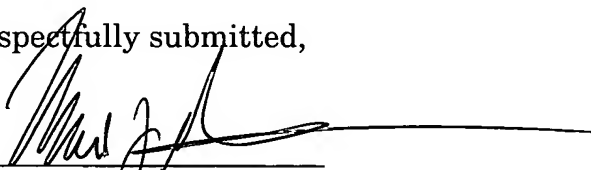
Applicant has commented on some of the distinctions between the cited references and the claims to facilitate a better understanding of the present invention. This discussion is not exhaustive of the facets of the invention, and

Applicant hereby reserves the right to present additional distinctions as appropriate. Furthermore, while these remarks may employ shortened, more specific, or variant descriptions of some of the claim language, Applicant respectfully notes that these remarks are not to be used to create implied limitations in the claims and only the actual wording of the claims should be considered against these references.

Applicant respectfully submits that all claims are now allowable. However, if the Examiner believes that additional discussion would facilitate prosecution of these claims, please contact the undersigned attorney for Applicant at 615-242-2400.

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions the Commissioner to extend the time for responding to the January 30, 2006, Office Action for two months from April 30, 2006, to June 30, 2006. Applicant encloses herewith a check in the amount of \$450 made payable to the Director of the USPTO for the petition fee. The Commissioner is authorized to charge any deficiency or credit any overpayment associated with the filing of this Response to Deposit Account 23-0035.

Respectfully submitted,



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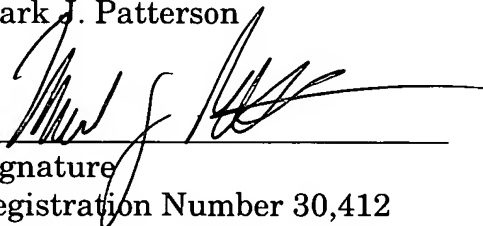
CERTIFICATE OF FIRST CLASS MAILING

I hereby certify that this Response and Amendment in Application Serial No.10/761,734 having a filing date of January 20, 2004, and a check in the amount of \$450 made payable to the Director of the USPTO, are being deposited with the United States Postal Service as first class mail in an envelope addressed to:

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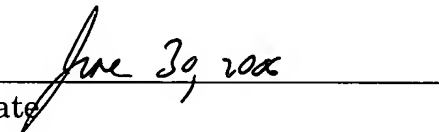
on June 30, 2006.

Mark J. Patterson



Signature

Registration Number 30,412



Date